Message Waiting Indicator Activation (Visual) - Expanded (1101)

When an end user subscribes to Voice Message/Reminder service the end user should have the ability to forward calls to the Enhanced Service Provider's voice messaging service, leave a detailed message for those who may be calling, and have a recorded voice message left in response. When messages are left for the end user, a message waiting indicator should be provided indicating a message is waiting. The ability to remotely activate message waiting indicator to end user's lines not located in the same central office, but in the same Local Access Transport Area (LATA) as the ESP (Voice Message Provider), is made possible through the Common Channel Signaling System 7 (SS7) network.

Generic Name of ONA Service	Product Name	BSE or CNS
Message Waiting Indicator Activation (Visual)-Expanded	AM - Remote Activation of Message Waiting - Expanded	BSE
	BA - Premier Messaging Services Interface	BSE
	Qwest - Message Delivery Service - Interoffice	BSE

FEATURE OPERATION:

The subscriber to the ESP's service has calls forwarded to the ESP's 7 or 10 digit telephone number. The end user can use Call Forwarding Busy Line, Call Forwarding Don't Answer, Call Forwarding Variable, or direct call to reach the ESP's voice message service. The ESP can activate a message waiting indicator for end users not served by the same central office switch as the ESP as long as the called subscriber (end user) and the ESP's central office are connected via the SS7 network and are equipped with the appropriate software packages.

Messages from the Voice Message Provider:

Two message types may be sent by the voicemessage provider to the serving central office via a Dedicated Network Access Link (See: Message Desk (SMDI) - Expanded). The first message activates the Message Waiting Indicator (MWI) feature on a specified directory number, the second message deactivates the indicator. The ESP's serving central office does not acknowledge receipt of these messages unless it encounters a problem when attempting to execute the request.

There are two types of failure messages, invalid and blocked. The invalid messageresults from an attempt to activate or deactivate MWI on a directory number not assigned the MWI option. The failure message can also be generated when a directory number is transmitted with incomplete or inaccurate information. The blocked message indicates that the central office was momentarily unable to execute the message request.

The ESP's serving central office does not expect an acknowledgment signal indicating the activation/deactivation of MWI for the ESP.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	1A ESS	5ESS	DMS-100
Earliest Generic Release	1AE11.03*	5E7*	BCS30*

* ESP and end user's serving central offices must be interconnected with SS7.

2. The ESP's customer premises equipment (CPE) used to receive and interpret the SMDI data must use the same signaling and data communications protocol as the telephone office Input/Output channel. This channel uses a standard Electronic Industries Association (EIA) RS232 asynchronous 1200 or 9600 baud ASCII interface.

3. Interconnection to the CPE is via standard outside plant cable, tip and ring connections.

4. Interface Description - Interface Between Customer Premises Equipment, Simplified Message Desk and Switching System: 1A ESS, Issue 1, July 1985.

5. References:

   - Ameritech Message Signal Interface (AMSI) and Ameritech Message Signal Interface- Expansion AM-TR-OAT-000065, Issue 1, July 1990.

   - Technical Reference for Call Forwarding Busy Line and Call Forwarding Don't Answer can be found in GR-586 LSSGR: Call Forwarding Subfeatures, FSD 01-02-1450, Issue 2, April 2002 (replaces TR-TSY-000586 Issue 1 & GR-586 Issue 1).

This service, if offered as a BSE, is associated with the Dedicated Network Access Link BSA.

Network Reconfiguration (1038)

This feature provides ESPs flexibility in managing and reconfiguring their dedicated facilities. This arrangement involves providing to a customer access to a control port on a digital cross-connect system (DCS). This service enables the re-connection (grooming) of one to 24 DS0 channels within a group of DS1s such that the destination of each DS0 can be changed. Reconfiguration at higher or lower transmission speeds may also be provided. A subscriber could control their dedicated channels in any combination between locations designated on their privatenetwork.

Generic Name of ONA Service	Product Name	BSE or CNS
Network Reconfiguration	AM - Ameritech Network Reconfiguration Service	BSE
	BA - INTELLIMUX℠	BSE
	BS - FlexServ®	BSE or CNS
	NX - Network Reconfiguration Service	BSE
	PB - Customer Network Reconfiguration	BSE
	SWB - Network Reconfiguration	BSE
	Qwest - COMMAND A LINK℠	BSE

FEATURE OPERATION:

Network Reconfiguration under ESP control is initialized by setting up a database for ESP access consisting of circuit identifications, customer locations, security passwords, etc. This database is then accessed by the ESP to make their own DS1 or DS0 routing rearrangements within a Digital Cross-connect System (DCS).

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available only in conjunction with Digital Cross-connect System (DCS) frames located in the telephone company Hub and/or Digital Serving Node locations. ESP/ESP's client facilities will have to route to the above-mentioned DCS frames.

2. Check with your local telephone company in order to determine availability of Extended Superframe Format (ESF) with Network Reconfiguration.

3. All bridging and subrating of services is to be provided outside of the DCS devices. The DCS devices are only used for cross-connecting DS0s.

4. References:

   - TR-NWT-000170 Digital Cross-Connect System (DSC 1/0) Generic Criteria, Issue 2, January 1993.

   - TR-NWT-000233 Wideband and Broadband Digital Cross-Connect Systems Generic Criteria, Issue 3, November 1993, (replaces TA-NWT-000233, Issue 4), component of FR-440.

℠ INTELLIMUX is a service mark of Bell Atlantic.

® FlexServ is a registered trademark of BellSouth Corporation.

℠ COMMAND A LINK is a service mark of Qwest Corporation.

- Ameritech reference AM-TR-TMO-000064, Issue 2, August 1991, Ameritech Reconfiguration Interface Specifications.

- Qwest publication 77371 COMMAND A LINK[SM] Technical Descriptions and Interface Combinations, Issue B, November 1994.

This service, if offered as a BSE, is associated with the Dedicated Network Access Link or Dedicated High Capacity digital (1.544 Mbps) basic serving arrangements, as indicated in each individual ONA plan.

[SM] COMMAND A LINK is a service mark of QwestCorporation.

APPENDIX 1

January 31, 2010

1. Appendix 1 - Region Specific Services - Technical Descriptions for Basic Serving Arrangements

Asynchronous Transfer Mode (ATM) Service (4031)

Asynchronous Transfer Mode (ATM) Service is a connection-oriented data transport service based on ATM cell-based switching technology.

ATM Service provides flexible connectivity using virtual connections implemented over digital facilities operating at transmission speeds of 1.536 Mbps, 44.210 Mbps, 149.760 Mbps or 599.040 Mbps. This service provides for the switching of symmetrical duplex transmissions of fixed-length ATM cells, utilizing virtual connections. As ATM is a connection-oriented service, to transfer information a virtual connection must be set up across the ATM network. ATM Service supports permanent virtual connections.

Information transmitted by ATM Service is segmented into fixed length cells, transported to and re-assembled at the destination. The ATM cell has a fixed length of 53 bytes. An ATM cell is broken into two main sections, the header and the payload. The payload is the portion that carries the actual information. The header is used for network functions such as addressing and error correction.

Generic Name of ONA Service	Product Name	
Asynchronous Transfer Mode (ATM) Service	BS – Asynchronous Transfer Mode	BSA

References:

- ATM Forum documents, "ATM User-Network Interface Specification" (Versions 3.0 and 3.1)
- BellSouth Technical Reference 73585, "Asynchronous Transfer Mode (ATM) Network Interface and Performance Specifications."

ATM Cell Relay Service (8040)

ATM Cell Relay Service (ATM CRS) is a connection-oriented communications service that uses Asynchronous Transfer Mode (ATM) technology. The service provides customers with high-speed, low-delay information transfer capacity, which supports applications that require near-real-time mixed media (data, video, image, voice) communications among multiple locations. ATM CRS supports transmission speeds of either up to 45 Mbps or up to 155 Mbps.

ATM CRS requires the use of customer terminal equipment that functions as a multiplexer/router/hub orATM switch. This terminal equipment must be purchased separately from the ATM CRS and must conform to industry standards. The terminal equipment accumulates customer traffic and puts it into a cell relay format suitable for transmission over the ATM CRS Network.

ATM CRS conforms to industry standards and is only provided over fiber optic facilities. Technical Specifications for ATM CRS are delineated in Technical Publication PUB 77378 (Qwest).

Generic Name of ONA Service	Product Name	
ATM Cell Relay Service	Qwest - ATM Cell Relay Service*	BSA

* This service has been deemend non-dominant at the federal level in accordance with the Commission's Qwest Enterprise Forbearance Order, which granted relief to Qwest from its obligations under *Computer Inquiry* rules in connection with its existing packet-switched broadband telecommunications and existing optical transmission services. See In the Matter of Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Broadband Services, Memorandum Opinion and Order, WC Docket No. 06125, FCC 08-168, rel Aug. 5, 2008.

Direct Current (MT3) (8051)

Direct Current (MT3) is a low-speed data private line transport service for alarm applications. It is provided over metallic facilities on a two-point or a multi-point basis. MT3 is available on an interstate basis. It may also be available on an intrastate basis (consult the appropriate Tariff Reference data to determine exact state availability).

Generic Name of ONA Service	Product Name	BSE or CNS
Direct Current (MT3)	Qwest – Direct Current (MT3)	BSA

Frame Relay Service (4027,5037,8039)

This service provides fast packet transmission of customer data to and among Local Area Networks and host computers. Using statistical multiplexing, it allows customers to allocate circuit bandwidth to applications as needed and as available. Variable length frames are relayed from the source to the desired destination by means of virtual connections which are established at the time of subscription via Service Order.

This arrangement requires the use of separately purchased customer provided terminal equipment that functions as a multiplexer/bridge/router. The terminal equipment accumulates customer data and puts it into a frame relay format for transmission over the Frame Relay Network.

Generic Name of ONA Service	Product Name	
Frame Relay Service	BS - Exchange Access Frame Relay Service	BSA
	NX - Frame Relay Service	BSA
	Qwest - Frame Relay Service*	BSA

References:

- TR-TSV-001369 Generic Requirements for Frame Relay PVC Exchange Service, Issue 1, May 1993 [No longer listed.]
- TR-TSV-001370 Generic Requirements for Exchange Access Frame Relay PVC Service, Issue 1, May 1993 [No longer listed.]

* This service has been deemed non-dominant at the federal level in accordance with the Commission's Qwest Enterprise Forbearance Order, which granted relief to Qwest from its obligations under *Computer Inquiry* rules in connection with its existing packet-switched broadband telecommunications and existing optical transmission services. See In the Matter of Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Broadband Services, Memorandum Opinion and Order, WC Docket No. 06-125, FCC 08-168, rel Aug. 5, 2008.

McCulloh Loop (8052)

McCulloh Loop (LS2) is a low-speed voice grade, private line data service for alarm applications at speeds of 0-30 baud or –150 baud. McCulloh bridging permits bridging for multi-point applications. The cable facility used must be a metallic cable pair. Up to twenty-six locations can be bridged on one circuit. LS2 is available on an interstate basis. It may also be available on an intrastate basis (consult the appropriate Tariff Reference data to determine exact state availability).

Generic Name of ONA Service	Product Name	BSE or CNS
McCulloh Loop (LS2)	Qwest – McCulloh Loop (LS2)	BSA

Modem Aggregation Service (8044)

Modem Aggregation Service ("MAS") provides ESPs the ability to use Telephone Company-provided modems that are located in the Telephone Company central offices. MAS provides a dial-in number and a specified number of modems (in groups of ten), which the ESP can make available to their end users in order to provide dialin access to the ESP's data network. End-user calls in excess of the subscribed-to number of modems will receive a subscriber busy signal. Connectivity between the modems and the customer's network is provided via standard Frame Relay Service ("FRS") or ATM Cell Relay Service ("CRS"). MAS requires the use of customer-provided equipment, located at the ESP's location, to interface with the end-user modem traffic that is being delivered over the FRS or ATM CRS to the ESP location. MAS is only available on an interstate basis.

Generic Name of ONA Service	Product Name	BSE or CNS
Modem Aggregation Service	Qwest – Modem Aggregation Service	BSA

Remote Access Service (4033)

Remote Access Service is a customer-controlled service that supports a dedicated, customer selected remote access server with backup dial-in capability for network management. Remote Access Service provides oneway ports for the collection, concentration, signaling and aggregation of an information service provider's (ISP's) dialup data traffic into a hub site. This option will allow an ISP's end-user customer to call into a remote access server. Remote Aceess Service is available on an interstate and intrastate basis.

Generic Name of ONA Service	Product Name	BSE or CNS
Remote Aeeess Service	BS – BellSouth Remote Access Scrvice	BSA

Trunk Side Access Facility (4003)

This capability provides a trunk side connection from a Traffic Operator Position System (TOPS) Tandem switch to an ESP's premises. This connection will be a dedicated one way trunk group from each of the TOPS Tandem switches serving the end offices the ESP wishes to receive traffic from. This trunk group is designed to deliver the called number (UAN) and calling line ANI from the TOPS Tandem switch to the ESP. Feature Group D-like signaling will be used to communicate with the ESPs CPE.

This capability will only be available in the General Subscribers Services Tariff and only in conjunction with Uniform Access Number.

Generic Name of ONA Service	Product Name	
Trunk Side Access Facility	BS - Trunk Side Access Facility	BSA

References: not available.

555 Access Service (8038)

This service provides access to ESPs by their clients using a 555-XXXX telephone number. The service enables the ESP to have a uniform, LATA-wide, 10 digit (NPA-555-XXXX) telephone number. The same 555 number could be used in multiple LATAs where service is available.

Generic Name of ONA Service	Product Name	BSE or CNS
555 Access Service	Qwest - 555 Access Service	BSA

FEATURE OPERATION:

1. When a caller dials the unique 555 telephone number (1-NPA-555-XXXX) within a LATA, the call is routed to the caller's originating end office and then to the associated Traffic Operator Position Switch (TOPS) that serves the end office.

2. At the TOPS tandem the 555 call is translated into a unique 800 NXX-XXXX telephone number which is associated with each 555 telephone number or group of 555 telephone numbers. (The 800 telephone number is obtained by the 555 service subscriber.) [Note: 888, 877, 866, and 855 are now equivalent to 800.]

3. After the call is translated into an 800 telephone number, the 800 database is queried to identify the 555 Service subscriber's call routing instructions.

4. The 555 call is then routed in the standard Feature Group D format which includes the calling number, the called number (800 telephone number) and Automated Number Identification (ANI) information digits. ANI information digits are the digits that precede the calling number on the ANI record. ANI information digits inform the 555 Service subscriber of the calling party's class of service for billing, routing and other special handling purposes.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. The calling party, the TOPS tandem and the 555 subscriber's routing point must be in the same LATA. The routing point can be either the 555 subscriber's location or to their carrier of choice. In LATAs where more than one TOPS tandem is present, the 555 Service subscriber must subscribe to 555 Service from both TOPS tandems.

2. Calls from outside the LATA will be blocked. Blocking also applies to "0 minus" (e.g., for the hearing impaired, etc.), "0+" calls, and restricted classes of service.

3. This capability is currently available only from suitably equipped DMS-200 Traffic Operator Position Switches.

2. Appendix 1 - Region Specific Services - Technieal Descriptions for Circuit Switched Serving Arrangements

AIN Alternate Routing (4028)

This service allows customers to establish predetermined alternate routing plans for incoming voice and data traffic (e.g., MLHG, DID). Incoming calls can be rerouted to multiple (or a different) locations and/or announcements during varied emergency situations.

Generic Name of ONA Service	Product Name	BSE or CNS
AIN Alternate Routing	BS - CrisisLink[SM]	CNS

FEATURE OPERATION:

At the time this service is established, the customer predefines a set of directory numbers (DNs) to be protected in the event of a crisis. All DNs in the set receive the same default alternate handling when the service is activated. The DN set is loaded through the AIN Service Management System (SMS) into the Switching Control Point (SCP), where it remains dormant until activated via customer request to the Service Center. When a customer calls to activate their service, they may activate their default treatment, or may specify changes at the time of activation.

As an example, the incoming calls to a customer can be rerouted to the predefined DNs as follows:

— A% of calls are redirected to Backup DN 1

— B% of calls are redirected to Backup DN 2

— C% of calls are redirected to Backup DN 3

— D% of calls are redirected to a DN associated with a customized announcement

— E% of calls are completed to the number originally dialed (partial crisis/restore)

— F% of calls are sent to a standard switch based announcement

This service uses two AIN 0.1 triggers: the Public Office Dialing Plan (PODP) trigger and the Termination Attempt Trigger (TAT). The distinction between the two is as follows:

- A PODP trigger is assigned to DNs which are served by a 5ESS terminating SSP (ASP Release 0.1B or later).
- A TAT is assigned to DNs which are served by a DMS-100 terminating SSP (NA003 or later).

[SM] CrisisLink is a service mark of BellSouth Corporation.

AIN Terminating Data Collection/Customized Routing (4029)

This service provides a customer with pertinent terminating traffic data information as well asthe capability for customized routing arrangements.

Generic Name of ONA Service	Product Name	BSE or CNS
AIN Traffic Data/Routing	BS – Virtual Number Call Detail VNCD formerly AdWatch®	CNS

FEATURE OPERATION:

The customer's Directory Number (DN) becomes a "virtual" number either by reusing the customer's existing number (if it resides in a 5ESS switch), or by assigning the customer a new number in a 5ESS switch.

The customer's "virtual" number is listed as the customer's number in the Directory. Calls directory to this number can be handled as follows:

Data Collection

- counts of calls made to the virtual number including the calling party number
- call detail based on calls that receive busy or don't answer
- the customer is able to access the service via a VT100 terminal at up to 19.2 kbps, and the customer will be able to view and download call records.

Routing Functionality

- routing by day of week/time of day/% distribution to up to three locations
- routing from the virtual number to a set of locations based on geographic origination of the call

® AdWatch is a registered trademark of BellSouth Corporation.

Automatic Disaster Recovery of DID (5010)

This capability enables an ESP with multiple wire centers to provision the same Direct Inward Dialing (DID) numbers to automatically transfer to an alternate wire center in the event of a failure. The DID number will reside at the normal serving wire center. The wire centers must be connected by 1.544 Mbps interoffice facilities.

Generic Name of ONA Service	Product Name	BSE or CNS
Automatic Disaster Recovery of DID	NX - DID/DOD Disaster Recovery Service	BSE or CNS

FEATURE OPERATION:

This feature is activated in the event of a failure in the loop between the normal wire center and the customer premises. Incoming calls to lines connected to the normal wire center will be rerouted over the 1.544 Mbps trunks to the alternate wire center for completion. PBX customers obtain DID service from their normal serving wire center and an alternate wire center designated by the telephone company. DID service from the normal wire center and the alternate wire center will share an NXX that will reside at the normal wire center.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	5ESS	DMS-100
Earliest Generic Release	5E2	BCS27

2. Outgoing calls from the alternate wire center will not be affected.

Automatic Delivery (2019)

When an end user encounters a busy or don't answer condition on outgoing calls, this feature automatically forwards the calling party's call to a predetermined, dialable number served by the same or different central office switch.

Generic Name of ONA Service	Product Name	BSE or CNS
Automatic Delivery	AM - Automatic Delivery	CNS

FEATURE OPERATION:

This feature, where available, will forward calls from POTS and business lines to a dialable number.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	5ESS	DMS-100
Earliest Generic Release	5E12	NA 006

References: not available

This service, if offered as a BSE, is associated with the Circuit Switched Trunk Type BSA.

Bridging - Line (5001)

This provides the ability to connect an end user's switched exchange service to an ESP (e.g., telephone answering or voice messaging service provider). This capability is the traditional bridged service that provided answering services with a direct connection to the client's line.

Generic Name of ONA Service	Product Name	BSE or CNS
Bridging - Line	NX – Bridging (Secretarial)	BSE

Reference: GR 672 LSSGR: Bridge Services On An IDLC System, FSD 20-02-2010 (A Module of LSSGR, FR-64), Issue 1, June 2000, (replaces TR-TSY-000672, Issue 1 – no technical changes).

This service, if offered as a BSE, is associated with the Circuit Switched Line serving arrangement.

Call Denial On Line Or Hunt Group (6004)

This screening option limits terminating Circuit Switched Line calls to completion within the LATA wherethe Circuit Switched Line resides. InterLATA and International calls are blocked, as well as calls which may potentially terminate outside the LATA. The Call Denial option allows calls to terminate to any NXX within the LATA served by the Circuit Switched Line that does not have a special charge associated with it. Blocked calls are routed to a reorder tone or recorded announcement.

Call Denial On Line Or Hunt Group is useful to 900 services and the ESP industry for fraud control.

This feature is provided in all electronic end offices and, where available, in electro-mechanical end offices.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Denial On Line Or Hunt Group	PB - Call Denial On Line Or Hunt Group	BSE

Reference GR-334 Switched Access Service: Transmission Parameter Limits and Interface Combinations, Issue 1, July 1994 (replaces TR-NWT-000334, Issue 3).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Call Detail Recording Reports - via NXX Screening (8014)

This service provides for call detail information to be recorded and made periodically available to ESPs via paper or magnetic tape format. The ESP is assigned a unique NXX code which alerts the originating central office to record call detail. Call detail includes: billing name, address and phone number; calling and called number; message date; and connect and disconnect time. Call detail is provided only for intraLATA calls. The ESP does not have to obtain access via Feature Groups A or D in order to obtain this service.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Detail Recording Reports - via NXX Screening	Qwest - Network Access Service	BSE

Reference: GR 621 LSSGR: Traffic Data Provision Features, FSD 02-02-1200 (A Module of LSSGR, FR-64), Issue 1, June 2000 (replaces TR-NWT-000621, Issue 1 – no technical changes).

This service, if offered as a BSE, is associated with the Circuit Switched Line basic serving arrangement.

Call Forwarding Originating (2003)

Call Forwarding Originating is an optional basic service which is provisioned as an originating subscriber feature. It is responsible for detecting a busy or no-answer condition, and when detected, can invoke an announcement which offersthe caller an option to leave a message. Call Forwarding Originating provides a trigger initiative to query the AIN Service Control Point (SCP) for routing information to direct the caller to their messaging provider of choice.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding Options	AM - Special Delivery Service	CNS

FEATURE OPERATION:

Since the end office portion of the feature can only route to one telephone number, AIN functionality is combined with this feature to provide the capability to route to multiple providers. The AIN SCP stores a table that maps the originating telephone number to a chosen messaging provider. When the SCP is queried, the appropriate provider's telephone number is returned to the end office for finalrouting. The SS7 links will transport call set-up information (ISUP) between each end office, as well as provide connectivity to and from the SCP for call monitoring and routing information. The STP switches are responsible for routing SS7 messages to the appropriate AIN node (i.e., SCP, end office, tandem, etc.). This feature is modified on a line basis by a service order.

TECHNOLOGICAL AND FEATURE INTERACTION CONSIDERATIONS:

1. This feature is available in the following central office switches:

Switch Type	DMS-100
Earliest Generic Release	NA-004

References: Not available.

Call Forwarding To Multiple Locations (6002)

This capability allows a subscriber/user to selectively redirect calls arriving at his/her station set to two (and sometimes more than two) different answering points including multiple messaging services based on specific call situations.

Generic Name of ONA Service	Product Name	BSE or CNS
Call Forwarding To Multiple Locations	PB - Dual Telephone Coverage	CNS

References: Not available.

This service, if offered as a BSE, is associated with the Circuit Switched Line type basic serving arrangement.